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September 18, 2008

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

Re: **WRITTEN EX PARTE PRESENTATION**
RM-11271
ET Docket Nos. 06-135, 05-213, 03-92

Dear Ms. Dortch:

ON Semiconductor Corporation ("ON Semi"),[1] by its attorneys, hereby submits this written *ex parte* to clarify aspects of its proposal to allow wireless hearing aids to operate in a portion of the proposed upper MedRadio ("MEDS") band (405-406 MHz).

First, the ON Semi proposal only seeks to deploy wireless hearing aids in a 300 KHz segment within the upper MEDS band on a *non-exclusive* basis which will not adversely impact the use of the MEDS band by other devices. Under the ON Semi proposal, wireless hearing aids would be allowed to share 15 percent of the spectrum allocated for MEDS (300 KHz in the upper MEDS band)[2] and would be precluded from 85 percent of the band (the entire lower MEDS band and 700 KHz of the upper MEDS band). Moreover, the deployment of wireless hearing aids within this fixed 300 KHz would not adversely impact the use of this spectrum by other MEDS devices for the following reasons:

- Wireless hearing aids operate at low power with an effective range of approximately 1 meter. Thus, devices located outside of this 1 meter range would be unaffected by transmissions from the wireless hearing aid.[3]
- Wireless hearing aids require paired operation; that is, two hearing aids communicating over the 300 KHz on a non-interference basis. These devices operate

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[1] On March 17, 2008, ON Semi completed its acquisition of AMI Semiconductor ("AMIS"). *See* http://www.onsemi.com/PowerSolutions/pressRoom.do.

[2] ON Semi has no preference on the location of the 300 KHz segment over which wireless hearing aid operations would be permitted, except that it be within the upper MEDS band. The upper MEDS band is preferred because it would be consistent with the proposal currently being considered by the European Telecommunications Standards Institute ("ETSI") and, therefore, would permit more global use of wireless hearing aids.

[3] A link budget analysis for wireless hearing aid operations is attached. Although the wireless hearing aid functionality can be enabled within a -36 dBm limit, additional functionalities, such as audio zoom capabilities, would require adoption of a -16 dBm limit.

> at low power and do not have the ability to increase power to overcome interference from other devices. As a result, if a non-hearing aid MEDS device is located within 1 meter of a wireless hearing aid, the transmissions from the non-hearing aid device will drown-out the transmissions from the wireless hearing aid. *The non-hearing aid MEDS device will retain the ability to function properly* whereas the wireless hearing aid will effectively lose its wireless capability (but continue to operate in the traditional, non-wireless manner) during the duration of the transmissions from the non-hearing aid device.

Second, as previously noted, adoption of the ON Semi proposal would be consistent with actions taken by many European regulators.[4] The deployment of wireless hearing aids in the 402-405 MHz band has already been authorized in Germany, The Czech Republic, France, Sweden, Poland, Romania, Great Britain, Ireland, Portugal, Finland, Iceland, The Netherlands, and Greece. Additional countries are expected to endorse this regulation in the near future.

Further, the ETSI is actively considering a new standard that would permit wireless hearing aid deployment in the 405-406 MHz band consistent with the ON Semi proposal before the FCC. An ETSI work item was adopted in June and a full technical report is expected in November.

ON Semi respectfully requests that the rules adopted in this proceeding specifically authorize the deployment of wireless hearing aids. The main "focus in this proceeding is on implanted and body-worn medical radiocommunication devices that serve to actively manage and maintain body functions and/or health conditions, and the spectrum needs and appropriate operational protocols for such devices."[5] In particular, the Commission proposed "certain modifications to our rules to better accommodate new medical devices immediately and imminently available."[6] Wireless hearing aids fall squarely within this framework – they are body-worn radiocommunication devices that actively manage a bodily function – hearing. Moreover, wireless hearing aids are imminently available. Accordingly, the inclusion of wireless hearing aids in the upper portion of proposed MEDS band should be addressed as part of the order now being prepared by the Commission.[7] This issue should not be postponed for consideration as part of a future notice.

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[4] *See* Letter from Robert G. Kirk, Counsel for ON Semiconductor Corporation to Marlene H. Dortch, Secretary, FCC at 3 (May 1, 2008).

[5] *Investigation of the Spectrum Requirements for Advanced Medical Technologies,* ET Docket Nos. 06-135, 05-213, 03-92, *Notice of Proposed Rulemaking, Notice of Inquiry and Order*, 21 FCC Rcd 8164, 8166 (2006).

[6] *Id.*

[7] The Commission has received comments on the wireless hearing aid issue from ON Semi and Medtronic. *See, e.g.,* Letter from Bryan N. Tramont and Robert G. Kirk, Counsel for AMIS, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 06-135 (Feb. 7, 2008); Letter from David E. Hilliard, Counsel for Medtronic, to Julius Knapp, Chief of the Office of Engineering and Technology, FCC, ET Docket No. 06-135 & RM-11271 (Feb. 25, 2008); Letter from John W. Kuzin, Counsel for Medtronic, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 06-135 & RM-11271 at 1 & Attachment, Slides 13-15 (Apr. 10, 2008).

Today the technology exists to substantially improve the hearing of individuals with impairments. Postponing consideration of wireless hearing aids until a future proceeding would needlessly delay the availability of state-of-the-art devices that would improve the lifestyles of many individuals with hearing disabilities. These individuals deserve wireless binaural transmissions and audio streaming functionality fully integrated in the hearing aid. Such capability will be available if 300 KHz within the upper MEDS band is opened to such devices. Moreover, opening this spectrum to wireless hearing aids will not harm other proposed or current MEDS band uses.

If you have any questions, please contact the undersigned.

Respectfully submitted,

/s/Robert G. Kirk
Robert G. Kirk

Cc: Julius P. Knapp (via e-mail)
Bruce A. Romano (via e-mail)
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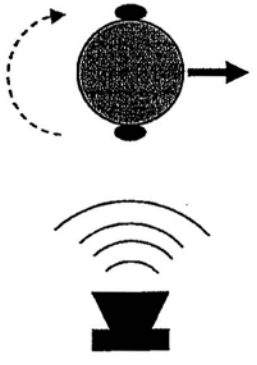
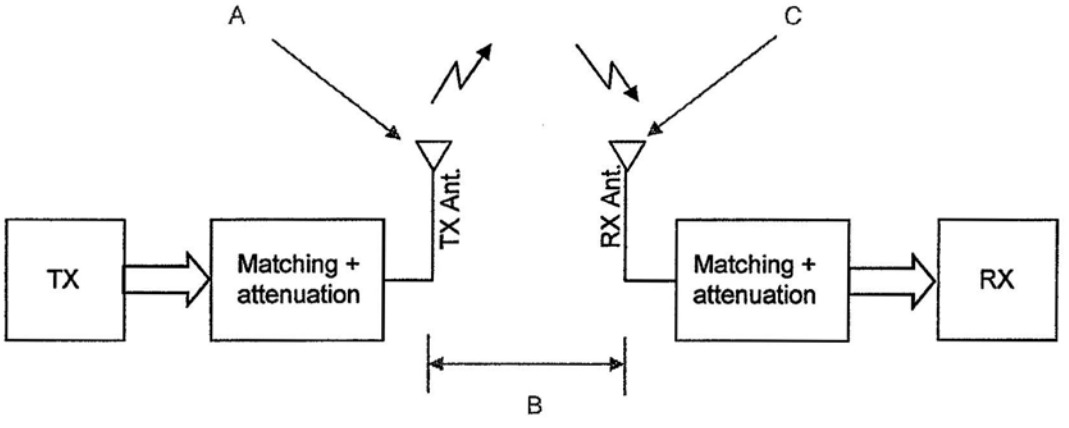
Sound relay: link budget

Wireless "sound relay" for more safety

- When sound emanates from one direction only, in the case where that side's ear is fully impaired, capturing the sound with the remaining ear can be challenging.
- Capturing and relaying the sound from one side to the other adds listening comfort, safety by restoring a 360° aural field!





Typical required range	0.3m	
Duty cycle	100%, constantly on	
- LINK BUDGET -		**- Net dBm -**
A	TX out at antenna	-41dBm
B	Path loss (0.3m) + margin (10dB)	24dBm
C	Signal level at RX antenna	-65dBm